DELAWARE Ever Green

Evergreen

Delaware Community Forestry Council News

DELAWARE FOREST SERVICE DEPARTMENT OF AGRICULTURE

Volume 15, Issue 1

December 2008

"Spruce Up! Delaware" Campaign Begins

Goal is to increase tree canopy throughout the state

"Spruce Up! Delaware," a new program that offered a $10 discount to encourage homeowners to plant trees on their property, kicked off this fall at four participating garden centers. The initiative is part of the broader effort to increase tree canopy in cities and towns statewide.

The four garden centers who participated in the 2008 pilot program were:

- All Seasons Garden Center in Dover
- Ronny's Garden World in Smyrna
- Lord's Landscaping in Millville,
- Countryside Nursery in Newark.

This fall's program was a joint effort of the Delaware Forest Service (DFS), the Delaware Nursery and Landscape Association (DNLA), and the Community Forestry Council. Homeowners were encouraged to make a positive impact on their community's air and water quality by planting a tree in their yard, according to Henry Poole, Urban and Community Forestry Coordinator with the Delaware Forest Service.

"Spruce Up!" began on September 15th and continued through November 15th. A total of 130 trees throughout Delaware were purchased through the coupon program. The hope is to continue the coupons next spring. For a list of which trees were the most popular and the communities that had the most trees planted, see the back page for more statistics on the first-year effort. For more information on "Spruce Up! Delaware," call 1-800-282-8685 or go to the web at: http://dda.delaware.gov/forestry.

Delaware's Urban and Community Forestry Coordinator Henry Poole (right) discusses a newly planted cherry tree with Todd and Sherri Royer at their Middletown home. The Royers purchased the tree from Ronny's Garden World in Smyrna as part of the 2008 "Spruce Up! Delaware" program .

Wendy Rezac of All Seasons Garden Center talks with Dover's Bernie Mattes about a tree.

WHAT TREE IS IT?

CLUES:

- **A popular tree for reforestation, this fast-growing native tree can reach 80 to 120 feet in height.**
- **This tree develops its characteristic blooms of greenish-yellow flowers from April to June.**
- **Its leaf shape is one of the reasons for its many names.**
- **This tree is actually a member of the magnolia family, but its name sounds like something else.**
- **Its wood is light, soft and easily worked**

So, what tree is it?

ANSWER on PAGE 4

Delaware Trees Show Their True Colors in Fall

The invasive Norway maple tree shows its characteristic yellow leaves in fall.

REDS	YELLOWS/GOLD	MIXED COLORS
Red oak	Ash	Buckeye
White oak	Beech	Red maple
Black Gum	Birch	Sweetgum
Black cherry	Hickory	Sassafras
Dogwood	Black locust	Sugar maple
Sumac	Tulip poplar	
	Black walnut	
	Cottonwood	
	Sycamore	
	Basswood	

One of the best things about living in Delaware is the colorful changing of the seasons. The brilliant display of fall colors in late-October and November can make for quite a show.

Frosty nights usually get credit for the beautiful colors, but, in reality, fall color is controlled by both the plant's genetic factors and the environment. Carotene and xanthophyll are yellow pigments produced in foliage all year; along with chlorophyll, the green pigment. In autumn when short days and cool temperatures slow down the production of chlorophyll, the remaining chlorophyll breaks down and disappears. Then the yellow pigments that have been masked by chlorophyll show up. These pigments give the ginkgo its clear yellow color. Redbud, larch, hickory, birch and witch hazel turn hues of yellow and gold.

Some plants produce anthocyanins (red and purple pigments) that may mask the yellow pigments. Some maples, dogwood, black tupelo, oaks and winged euonymous seem to be on fire with red and purple.

Anthocyanin production increases in tandem with sugars in the leaves. A fall season with sunny days and cool nights increases sugar content of the leaves and intensifies fall reds. This also explains the two-tone effect on green ash which exhibits yellow on leaves inside the tree and purple on the outside leaves where they are exposed to sunlight. It also explains the amelanchier which may be red on top branches and yellow on bottom branches.

Temperature and sunlight can affect a tree's red colors from year to year. If a number of warm, sunny autumn days and cool but not freezing nights come one after the other, it's going to be a good year for reds. In the daytime, the leaves can produce lots of sugar, but the cool night temperatures prevent the sugar sap from flowing through the leaf veins and down into the branches and trunk.

The red color in fall foliage comes from anthocyanins in the leaf - which turn shades of purple or red after the tree stops producing green chlorophyll.

Red Maple is commonly thought of as having blazing red fall color, but trees found in the wild may display bright yellow, orange-red, or red fall color, or may even have poor green to chartreuse fall color.

This is where the anthocyanins come in! Scientists have discovered that anthocyanins are produced as a form of protection. They let the tree recover nutrients in the leaves before they fall off. This helps it get ready for the next growing season. Anthocyanins give leaves the bright, brilliant shades of red, purple and crimson.

The yellow, gold and orange colors created by carotenoid remain fairly constant from year to year. That's because carotenoid are always present in leaves, and the amount does not change in response to weather.

A Tale of Two Maples

The Sugar maple *(Acer saccharum)* is important to the ecology of many North American forests, and it is a major component of many forest types. Sugar maples engage in hydraulic lift, drawing water from lower soil layers and exuding that water into upper, drier soil layers. This not only benefits the tree itself but also other plants.

Sugar maple is one of the most shade tolerant large deciduous trees. Like other maples, its shade tolerance gives it ability to germinate and persist under a closed canopy as an understory plant, and respond with rapid growth to the increased light formed by a gap in the canopy. The sugar maple can grow comfortably in any type of soil, except sand.

Human activity has contributed to the decline of the sugar maple. It can be replaced by more opportunistic species in areas where forests are cut over. The sugar maple is also more susceptible to pollution than other maples. Acid rain, soil acidification and the increased use of salt over the last several decades on streets and roads for de-icing purposes has decimated the sugar maple's role as a "street-front" tree.

The sugar maple (along with black maple) is one of the most important New England trees because it is a major source of sap for making maple syrup. Many maples can be used as a sap source for maple syrup, but none are as good as these two.

Sugar maple's wood is one of the hardest and densest of the maples, and is prized for furniture and flooring. Bowling alleys and bowling pins are both commonly manufactured from sugar maple. Trees with wavy wood grain, which can occur in curly, quilted and "birdseye maple" form, are especially valued. Maple is also the wood used for basketball courts, including the floors used by the NBA, and it is a popular wood for baseball bats, along with white ash.

The sugar maple is a favorite street and garden tree, because it is easy to propagate and transplant, is fairly fast-growing, and has beautiful fall color. The sugar maple is also often confused with the Norway maple, though they are not closely related. The sugar maple is most easily identified by clear sap in the leaf petiole (the Norway maple has white sap), brown sharp-tipped buds (the Norway maple has blunt green or reddish purple buds), and shaggy bark on older trees (the Norway maple bark has small grooves). Also, the leaf lobes of the sugar maple have a more triangular shape, in contrast to the squarish lobes of the Norway maple.

All trees are not created equal. Not all maples are considered healthy for the forest. Compare these two trees.

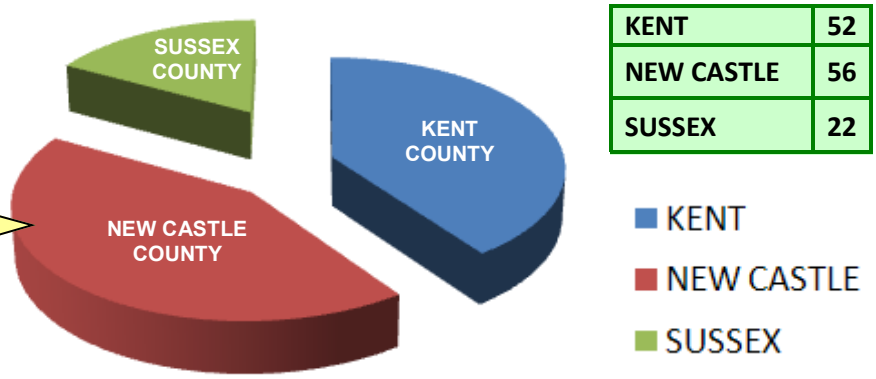
Norway maple *(Acer platanoides)* is found in 13 states in the eastern United States, where it is recognized as an invasive plant. Norway maple has escaped cultivation and invades forests, fields, and other natural habitats. It forms monotypic stands that create dense shade and it displaces native trees, shrubs and herbs. Norway maple is easily spotted in the autumn when its leaves turn yellow late in the season. However, other varieties of Norway maple (Crimson King) maintain a purple color in the fall. Norway maple is an invasive plant and you should not plant it. This maple tolerates heavy shade, so it establishes well in woodlands where birds drop their seeds. There, with their own heavy canopies, they shade out native wildflowers. And their shallow roots compete in forests with less vigorous native vegetation.

Norway maple is the most prevalent maple in Europe, occurring from Norway to Iran. Their seedlings were first introduced to this country by the famous nurseryman and explorer John Bartram in 1756. Like many such plants, its invasive tendencies weren't noticed until much later. In the early 1900's the first records note it "occasionally escaped." Today, it is on invasive plant lists in many states, and banned from further planting in others.

Both the red and sugar maples are alternative choices to the Norway maple. Both reach a similar height of 50 to 70 feet as the Norway maple. Both trees are native, hardy, and have attractive seasonal foliage. The red maple (*Acer rubrum*) has red spring color when in bloom, and yellow to red leaves in fall. And most people know the attractive leaves of Vermont's state tree, the sugar maple (*Acer saccharum*). The red maple tolerates wet soils better than the sugar maple, but is not as drought tolerant.

Spruce Up! Delaware Tree Planting Campaign Statistics

New Castle County had the most trees planted through the Spruce Up! program, with Kent County a close second.



KENT	52
NEW CASTLE	56
SUSSEX	22

Now that the 'Spruce up! Delaware" tree planting has wrapped up for the year, the preliminary analysis of trees purchased reveals some interesting preferences concerning the types of trees chosen for planting in homeowners' yards.

Though the trees chosen are likely to reflect the particular motivations of each property owner, there were definitive favorites that emerged. Homeowners who valued privacy and windbreaks may have chosen arborvitae, and those who valued shade and fall color may have picked another species. Seasonal color and low maintenance were certainly other factors that drove consumer choice.

Most people must have been looking for shade and fall color, as the most popular tree was *Acer rubrum*, or red maple. Next in popularity was cherry, with vibrant spring color, along with varieties of holly.

Middletown had the most trees planted, followed by Dover, and then Wilmington.

Ronny's Garden World of Smyrna was where most trees were purchased. Two out of every three (67%) trees came from Ronny's. Almost one in five (19%) were from All Seasons in Dover, with the rest from Countryside Nursery in Newark and Lord's Landscaping in Millville.

TREE SPECIES	%
Red Maple	21%
Cherry	8%
Holly	8%
Redbud	5%
Willow Oak	5%
Plum	5%
Magnolia	5%
Tulip Poplar	4%
River Birch	4%
Pin Oak	4%
Dogwood	4%
Arborvitae	4%
Pear	4%
Other	21%
TOTAL	100%

CITY	%
Middletown	12%
Dover	10%
Wilmington	8%
Magnolia	8%
Newark	7%
Camden-Wyoming	7%
Smyrna	6%
Clayton	5%
Felton	5%
Dagsboro	4%
Lewes	3%
Bear	2%
Bethany Beach	2%
Hockessin	2%
Others	16%
TOTAL	100%

Delaware's state tree, American Holly, is one of the few trees featured on a United States postage stamp. This 32-cent stamp was good for mailing a first-class letter when it was issued in 1997.

Answer to "What Tree Is It?"
Liriodendron tulipifera or Tulip Poplar is one of the most important commercial trees in Delaware, however it has great value as a street tree and an ornamental addition to the community landscape. Its leaves bear the characteristic shape of a tulip flower, and its flowers in spring help explain why it's called "yellow-poplar." A fast-grower with a pyramidal shape, this tree is known by other names: tulip magnolia, tulip tree or whitewood. It does best on moderately moist, deep, well-drained and loosely-textured soil.